

#### MEDICAL DEVICE HAVING ARBITRARILY-SHAPED ELECTRODES

A catheter or lead having electrically conductive traces and arbitrarily-shaped external electrical contacts. Each trace may be in electrical connection with one or more external electrical contacts. More specifically, each trace is typically electrically connected to a single contact. The traces and contacts may assist in diagnosis and/or detection of bio-electrical signals emitted by organs, and may transmit such signals to a connector or diagnostic device affixed to the catheter. The external electrical contacts may detect bioelectric energy or may deliver electrical energy to a target site.

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